



Oral Health: Preventing Cavities, Gum Disease, and Oral Cancers 2003



"Safe and effective measures exist for preventing oral disease, but they are underused."

David Satcher, MD, PhD
Surgeon General, 1998–2002

Oral Health Problems: Painful, Costly, and Preventable

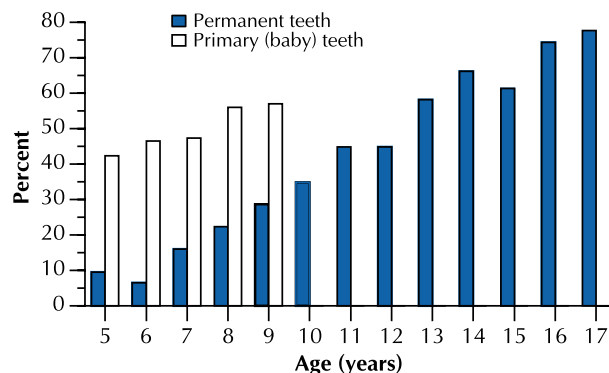
Mouth and throat diseases—ranging from cavities to cancer—cause pain and disability for millions of Americans. This fact is disturbing because almost all oral diseases can be prevented.

For children, cavities are a common problem that begins at an early age. Tooth decay affects nearly a fifth of 2–4-year-olds, more than half of 8-year-olds, and more than three-fourths of 17-year-olds. Hardest hit are low-income children. About half of all cavities go untreated among low-income children. Untreated cavities may cause pain, dysfunction, absence from school, underweight, and poor appearance—problems that can greatly reduce a child’s capacity to succeed in life.

For adults, oral problems can be deadly. Each year, about 30,000 Americans learn they have mouth and throat cancers, and nearly 8,000 Americans die of these diseases.

Tooth loss is another serious problem, particularly for older adults. Almost three of every 10 adults over age 65 have lost all of their teeth because of cavities and gum disease. The effects are far more than cosmetic. Tooth loss may limit the foods a person eats and may contribute to nutrition problems.

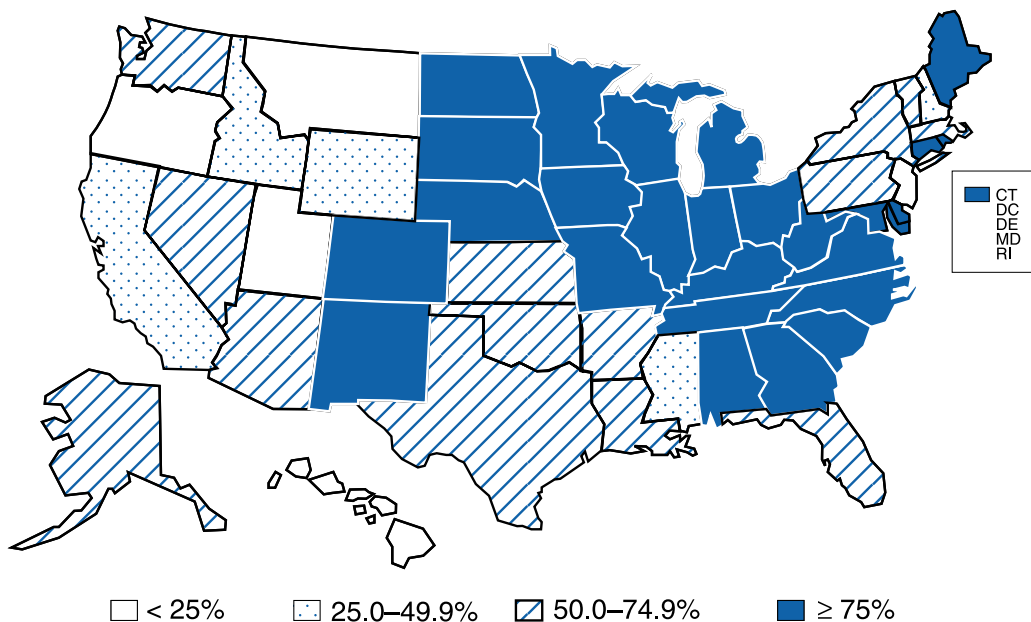
U.S. Children Who Have Had Cavities



Source: National Center for Health Statistics, CDC. Third National Health and Nutrition Examination Survey, 1988-1994.

In 2002, Americans made about 500 million visits to dentists, and an estimated \$68 billion was spent on dental services. Yet many children and adults still go without regular dental care and other measures that have been proven effective in preventing oral diseases and reducing costs. For example, more than 100 million Americans still do not have access to water that contains enough fluoride to protect their teeth, even though the per capita cost of water fluoridation over a person’s lifetime is less than the cost of one dental filling.

People on Fluoridated Water Systems,* 2000



*Of people on public water systems, the percentage whose systems are fluoridated.

Source: CDC. Populations receiving optimally fluoridated public drinking water—United States, 2000. *MMWR* 2002;51:144–7.

CDC's National Leadership to Improve Oral Health

CDC is the lead federal agency responsible for promoting oral health. With fiscal year 2002 funds totaling \$10.8 million,* CDC

- Helps states strengthen their oral health programs, reach people hardest hit by oral diseases, and expand use of measures proven effective in preventing oral disease.
- Promotes oral health in communities, schools, and health care settings nationwide.
- Supports research that aims to strengthen prevention efforts in communities.
- Evaluates prevention strategies to see which are cost-effective.

Building Capacity in States

CDC provides 12 states and the Republic of Palau with funds, technical assistance, and training to build strong oral health programs. With CDC support, states can better promote oral health, monitor the population's oral health behaviors and problems, and conduct and evaluate prevention programs. Four of these states also receive funds to develop and coordinate community water fluoridation programs or school-based dental sealant programs.

CDC also works with the Association of State and Territorial Dental Directors (ASTDD) to give states guidance on oral health issues, raise state oral health program standards, and help states develop the expertise needed to assess the population's oral health needs and conduct effective prevention programs.

Encouraging Effective Use of Fluoride

CDC provides national leadership in assessing the appropriate use of various forms of fluoride, works with partners to improve the quality of water fluoridation, and extends water fluoridation to new communities.

Over the past 50 years, the damage caused by dental decay has been drastically reduced, primarily through the use of fluoride. The most cost-effective way to deliver the benefits of fluoride to all residents of a community is water fluoridation—adjusting the fluoride in the public water supply to the right level for decay prevention.

A CDC study found that for communities with more than 20,000 residents, every \$1 invested in community water fluoridation yields \$38 in savings each year from fewer cavities treated. The Task Force on Community Preventive Services, which strongly recommends community water fluoridation, concluded that tooth decay in America has decreased by 30%–50% because of fluoridation. CDC activities for promoting fluoride include

- Issuing *Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States* (www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm).
- Providing fluoridation training to state drinking water system engineers, dental directors, and other oral health staff.
- Managing a Web-based system to help states monitor the quality of fluoridated water systems.
- Educating communities about the appropriate use of fluoride products.

Promoting Use of Dental Sealants

Dental sealants—a plastic coating applied to the chewing surfaces of the back teeth—are a safe, effective way to prevent cavities among schoolchildren. In some cases, sealants can even stop tooth decay that has already started. Sealants significantly reduce a child's risk for having untreated cavities.

Healthy People 2010 calls for half of all U.S. children to have dental sealants by 2010, but currently less than 25% of schoolchildren do. Children in some racial and ethnic groups are less likely than others to have sealants. For example, only 10% of Mexican American 8-year-olds have sealants on their teeth.

CDC researchers evaluated several strategies and found that delivering sealants to all children attending low-income schools was the most cost-effective strategy. By offering sealant programs that are based in schools or associated with schools, some communities have been able to reach the *Healthy People 2010* objective for dental sealants. In addition, the Task Force on Community Preventive Services strongly recommends school-based or school-linked sealant programs as an effective way to prevent and control cavities.

*Fiscal year 2003 funding levels were not available at time of printing.

Helping States Improve Oral Health

Targeting Mouth and Throat Cancers

Only about half of people with diagnosed mouth or throat cancer survive more than 5 years. Among African American men, only about a third survive. People who do survive are at increased risk of developing additional cancer and often suffer from disfiguring surgery and mental trauma.

CDC is working with public and private partners to develop a national program to prevent mouth and throat cancers and to promote early detection and treatment, which may improve people's long-term survival. In addition, CDC provides supplemental funds to cancer registries in South Carolina and West Virginia so these states can evaluate their data on mouth and throat cancers and find ways to improve the data's accuracy. Their findings will help other state cancer registries collect more accurate, useful data.

Guiding Infection Control in Dentistry

Infection control in dental offices is essential to ensuring the public's safety and retaining its confidence. In the 16 years since CDC published its first guidelines for infection control in dentistry, infection control practices have dramatically improved, but the potential for disease transmission during dental visits still arouses public concern. Hence, CDC regularly assesses the risks of infectious disease transmission, updates guidelines to reduce risks, investigates disease outbreaks and environmental hazards in dental offices, and identifies emerging problems.

Supporting a National Research Network

Through the Prevention Research Centers, CDC supports research that promotes oral health in predominantly poor, ethnically diverse communities. Members of these communities help plan and conduct the research projects. Partners include schools of public health and dentistry, professional organizations, and state health departments. For example,

- Researchers at the **University of North Carolina at Chapel Hill** are evaluating two activities: a community

water fluoridation program and a school-based intervention to provide schoolchildren with fluoride mouth rinse. Investigators will determine how effective these interventions are in preventing tooth decay among schoolchildren, especially poor children.

- At the **University of Alabama at Birmingham**, investigators trained residents of a largely African American rural community to serve as community health advisors on many health issues. These advisors educate their neighbors about signs of oral diseases and encourage healthy behaviors that will reduce their risk for these conditions.

Monitoring Oral Health in America

Routine surveys of Americans provide a wealth of information about their oral health—for instance, what our biggest oral health problems are, which oral diseases are on the rise, and which groups of people are most at risk. CDC supports Web-based systems that combine oral health data from different sources and make them widely available. The **National Oral Health Surveillance System** (www.cdc.gov/nohss) links oral health data from various state-based systems, including state oral health surveys and the Behavioral Risk Factor Surveillance System. The enhanced annual **State Dental Program Synopses** (www2.cdc.gov/nccdphp/doh/synopses/index.asp) provides data on state population demographics and the activities and funding levels of state dental programs.

CDC also helps health departments to collect, interpret, and share oral health data specific to their areas. States and communities use the data to monitor their progress in meeting *Healthy People 2010* goals for oral health, target limited resources to people with the greatest needs, and see how their oral health problems compare with those of other states and the nation.

Future Directions

CDC will continue to help states strengthen their oral health programs and develop effective interventions. In the future, CDC also will continue to seek opportunities to work with partners in oral health research, surveillance, education, and evaluation.

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